DOCUMENT RESUME

ED 028 899 RE 001 701

Programmed Tutorial Reading Project, Indianapolis, Indiana. It Works.

Spons Agency-Office of Education (DHEW), Washington, D.C. Bureau of Elementary and Secondary Education.; Office of Education (DHEW), Washington, D.C. Div. of Compensatory Education.

Report No-OE-37029

Pub Date [69]

Note-15p.

Available from-Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402 (OE-37029, $.20)

EDRS Price MF-$0.25 HC Not Available from EDRS.

Descriptors-*Compensatory Education Programs, *Disadvantaged Youth, *Grade 1, Individual Instruction, Nonprofessional Personnel, *Programed Tutoring, Reading, *Remedial Programs, Volunteers

First-grade Negroes and Caucasians from deteriorated city-center areas were tutored in reading by paraprofessional tutors whose behavior was tightly programed. The project was developed through several years of experimentation by Indiana University before being initiated in the Indianapolis Schools in 1965. Children were given 15-minute sessions with individual tutors during which they were asked to perform certain reading tasks. Tutors, referring to a master list of tasks and responses, indicated the correctness or incorrectness of the children's responses with short statements. Although the project has continued through 1968, the best evaluation of the program was made in 1965. It compared programed tutoring once a day for 15 minutes with programed tutoring twice a day and with one and two daily sessions of a more traditional directed tutoring. Of these, only programed tutoring twice a day was statistically superior to its control. References are included. (MD)

ED028899

OE-37029
OE/BESE TITLE I

PROGRAMMED TUTORIAL READING PROJECT
Indianapolis, Indiana

RE 001 701

Elementary Program in Compensatory Education 2

IT WORKS

1. Preschool Program in Compensatory Education

   Preschool Program, Fresno, California OE–37034
   Infant Education Research Project, Washington, D.C. OE–37033
   Early Childhood Project. New York City OE–37027
   Perry Preschool Project, Ypsilanti, Michigan OE–37035
   Diagnostically Based Curriculum, Bloomington, Indiana OE–37024
   Academic Preschool, Champaign, Illinois OE–37041

2. Elementary Program in Compensatory Education

   More Effective Schools, New York City OE–37042
   Intensive Reading Instructional Teams, Hartford, Connecticut OE–37038
   After School Study Centers, New York City OE–37036
   Self-Directive Dramatization Project, Joliet, Illinois OE–37037
   Project Concern, Hartford, Connecticut OE–37030
   Elementary Reading Centers, Milwaukee, Wisconsin OE–37031
   School and Home Program, Flint, Michigan OE–37023
   Programmed Tutorial Reading Project, Indianapolis, Indiana OE–37029
   Speech and Language Development Program, Milwaukee, Wisconsin OE–37028

3. Elementary-Secondary Program in Compensatory Education

   Homework Helper Program, New York City OE–37025
   Communication Skills Center Project, Detroit, Michigan OE–37039

4. Secondary Program in Compensatory Education

   Junior High Summer Institutes, New York City OE–37026
   Project R–3, San Jose, California OE–37040
   College Bound Program, New York City OE–37032

For information on any of the booklets listed, please write to Information Officer, Division of Compensatory Education, U.S. Office of Education, Washington, D.C. 20202

IT WORKS

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION

THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL OFFICE OF EDUCATION POSITION OR POLICY.

PROGRAMMED TUTORIAL READING PROJECT
INDIANAPOLIS, INDIANA

One of a Series of

Successful Compensatory Education Programs

U.S. Department of Health, Education, and Welfare
Robert H. Finch, Secretary

Office of Education
Peter P. Muirhead, Acting Commissioner

For sale by the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C., 20402 - Price 20 cents

FOREWORD

This project report is part of an independent study of selected exemplary programs for the education of disadvantaged children completed by the American Institutes for Research in the Behavioral Sciences, Palo Alto, Calif., under contract with the U.S. Office of Education.

The researchers report this project significantly improved the educational attainment of the disadvantaged children involved. Other communities, in reviewing the educational needs of the disadvantaged youngsters they serve, may wish to use this project as a model - adapting it to their specific requirements and resources.

Division of Compensatory Education
Bureau of Elementary and Secondary Education

THE PROGRAMMED TUTORIAL READING PROJECT OF INDIANAPOLIS, INDIANA

Introduction

First-graders were tutored in reading by para-professional personnel whose behavior was tightly programmed. The program was meant to be maximally sensitive to the progress of the individual child, while relieving the tutor of professional teaching decisions.

The children were from deteriorated city-center areas, typified by crowded, multi-family units. Of 1,200 receiving instruction in 1967-68, approximately 700 were Negro and 500 Caucasian, many of the latter being of Appalachian origin.

The program was developed through several years of experimentation by Indiana University before being initiated in the Indianapolis Schools in 1965. In 1966-67 there were approximately 800 students and 78 tutors in 30 schools; in 1967-68 there were 1,200 students.

On several measures of reading, children receiving programmed tutoring were superior to a control group and to a group receiving conventional tutoring.

Personnel

A. Professional Director. (Part-time. This party was the originator of the program and was responsible for research; he was not a school district employee.)

B. Head Supervisor. (Full-time. Three years of college, and experienced as a programmed tutor.)

She assumed general budgetary and administrative direction of the program.

C. Field Supervisors. (One for every 20 to 22 tutors; 30 hours per week.)

These people supervised the tutors in 6 to 10 schools, checking to see that they adhered to the prescribed procedures. They cooperated with school personnel in arriving at those professional decisions which had to do with the project in each school.

D. Tutors. (In 1966-67 there were 78 tutors; about one-half worked 3 hours per day and one-half worked 5 to 6 hours per day. Approximately half were Negro and half, Caucasian. About half were from inner-city and half, from suburbs. They had high-school education or more, but no professional training or experience.)

E. Secretary. (Full-time.)

Methodology: General

Programmed tutoring was used as a supplement to the regular reading instruction in first-grade classrooms. The pupils worked individually with the tutor for one or two 15-minute sessions per day, and with the same tutor all year.

The reading material used in this project was the Ginn Basal Reader Series, although other beginning reading series could be used in the same way. Some specially prepared reading matter was also used. All of these materials were arranged into lessons which in turn were divided into items. An item might consist of a phrase, a sentence, or a paragraph, depending upon how far along the child was in the year's sequence of lessons. The lessons and items were designated by numbers and letters which were entered in the margin of the book at the start of the year. To proceed through the year's sequence of lessons, the tutor consulted a separate master list which showed the lessons in order and the pages on which each appeared in the readers. When she turned to these pages, the marginal lettering and markings indicated the sequence of items in the lesson (15 items or less comprised a lesson).

The above materials were referred to as "content" programs: they presented the content to the learner and told the tutor the sequence of items and lessons. But they did not tell her what to do with the items and lessons. This was up to the "operational" programs. These consisted of nine different item programs and a single lesson program.

Each item program had a specific learning objective. Two of the programs dealt with sight-reading and were the first used, so that the child learned to identify and pronounce printed words, singly or in sentences. Six of the programs dealt with comprehension and were the next used, so that the child learned to understand the meaning of sentences and larger units as he read them. The final item program dealt with word analysis, so that the child learned to "sound out" new words, using his previously acquired sight-reading and comprehension skills. All of these were used in tutoring word analysis. The programs for comprehension and word analysis were provided in the separate specially written books designed to supplement the readers.

These programs were used in a cyclic manner throughout the year. For instance, item program No. 1, Sight-reading, was used with a page of a pre-primer to guide the tutor and child through several words (one item). It was then used with several more items until a lesson was completed, comprising several pages of the pre-primer. Then it was used repeatedly to complete several more lessons. These were followed by comprehension and word-analysis lessons, each composed of items that were taught by appropriate item programs. Then, there was another cycle of sight-reading, comprehension, and word analysis lessons at a higher level of reading skill and perhaps with a new book. A number of such cycles comprised the year's program.

Item programs can be explained further by illustration, using item program No. 1, Sight-reading. The tutor conformed to five steps in this program. Steps 1, 3, and 5 were test steps, used to ascertain which words of the item could be sight-read by the child. Steps 2 and 4 were teaching steps.

In Step 1, the tutor asked the child to read a specific item in the primer or other designated book. If the child made no errors, the tutor praised him and proceeded immediately to Step 1 of the next item. Otherwise, she recorded each word on which the child erred and went to Step 2 without comment.

In Step 2, the tutor employed an alphabetical list containing, among others, all the words from the item. She pointed to a word which had been missed and asked the student to point to the same word in the book. If necessary, she offered specified prompts until he did so correctly. She then asked him to pronounce it. If he could not, given appropriate time and specified prompting, he was told the word, and said it himself. This was done for each word missed in Step 1.

Step 3 was similar to Step 1, with the child asked to read the entire item once again.

Step 4 aimed to teach the words still missed in 3. The tutor then said the word and asked the student to point to that word on the alphabetical word list. When this had been done correctly, he was asked to pronounce it. Again, the tutor obtained a correct response before going on to the next word or step.

Step 5 was similar to 1 and 3. If there were still errors, the tutor recorded this on a "Tutoring Record Sheet" and went on without comment to Step 1 of the next item. Any items which the student did not complete without error were repeated at a later time.

Just as one of the item programs guided the tutor through an item, the single lesson program directed her in combining the items into a lesson. Briefly, the structure of a lesson was as follows: On the first run, the tutor and learner went through all items prescribed for that lesson. On the "Tutoring Record Sheet," the tutor noted the items on which there were still errors outstanding. The second run consisted of those items only. Each succeeding run presented only the items missed on the preceding run. When all errors were eliminated from the progressively shorter runs, the tutor circled an x on the record sheet and began again with a complete run. The entire process was repeated until there was a complete run without error, or until ten x's had been circled. At that point the lesson was terminated.

The tutor then consulted the master list. This told her the book and pages where she would find the next lesson, and it told her which item program(s) to use in the lesson.

Some of the rationale of the program is implicit in the above description, and has been made explicit by the project personnel as well. It can be seen that the program contained many elements of programmed instruction: frequent and immediate feedback to the learner, specified format, and individualized pace. While orthodox programmed instruction has often employed errorless or near-errorless learning, with many cues at first, followed by a fading of cues, this project proceeded in the opposite manner, with minimal cueing at first, followed by increased prompting until the learner could eventually make the correct response. In that way the project represented a form of guided discovery learning on the items not initially known, and eliminated unnecessary practice on the items which were initially known. Emphasis was on success and not on failure. The student was praised when he had an entire item correct, but not told "No" or "Wrong" when incorrect. He had repeated opportunity to reach the criterion of complete success before going on to the next item or lesson, but was not kept at a task which he repeatedly failed. He might return to the task at a later time, however. (Here the learning principle of spaced vs. massed practice seems to be implicit.)

The tutor usually met with a child outside the classroom. It was found that space requirements were not difficult: a lighted cloakroom or a movable partition screen in a hallway was satisfactory for tutoring sessions. The tutor brought all materials needed for the lesson: the item and lesson programs (which the tutors came to master so that frequent reference to them was unnecessary), the master list, the pupil's record sheet, the alphabetical word lists, the basal readers, and the comprehension and word analysis books, marked into lessons and items.

It was expected of the tutor that she provide the classroom teacher with information on the children as requested (but that she not offer pedagogical advice). It was expected that she honor the confidential nature of such information, and that she adhere to the dress standards of the school's professional personnel.

Tutors were recruited by notices in PTA bulletins and by word of mouth. They received 18 hours of group instruction along with on-the-job supervision. Twelve hours of the group instruction was preservice matched by 12 hours of related home study. The other 6 hours occurred during the first 2 months of tutoring.*

Methodology: Specific Examples

A. The "Statement Comprehension" program was one of the 6 item programs dealing with comprehension. (The other 5 were Instruction Comprehension, Question Comprehension, and Logical, Completion, and Story Comprehension.)

The "Statement Comprehension" program required the child to read a statement and a question orally and to give an acceptable oral answer. The object of the program was to obtain such an answer to the question, based on the statement above it. If the child offered such an answer at any time during the program, he was given a word of praise and the tutor went on to the next item, even if the child had not yet correctly read the statement and question.

In Steps 1 to 5, the previously-described Sight-Reading program was applied to the statement and question together as a unit. The objective was to elicit a complete, correct reading of statement and question, and to give the child an opportunity to answer the question.

When the child had read correctly, and if he had not yet answered correctly, he proceeded to Step 6. Here he was encouraged to answer, and the tutor gave specified prompts to this end.

In Step 7, the child was shown a 3-foil multiple-choice answer to the questions. If he did not read or point to the correct answer, the tutor went to Step 8. If he did not read correctly, but pointed correctly, the tutor went to Step 9.

---

* Detailed suggestions for tutor training are included in the supervisor's manual. This has been prepared for commercial distribution, along with the Tutor's Guide (which contains detailed instructions for the operational programs the tutor must learn) and related material, by Ginn and Company.

In Step 8 the tutor offered prompts until the student could point to the correct answer. In Step 9 she attempted to elicit a correct reading of the answer. She used the Free-Reading program for any words which offered difficulty. If the child still did not read the answer correctly, the tutor went to the following item, Step 1. The incorrect item was tried again on a subsequent run through the lesson.

B. The Logical Comprehension program followed a format almost identical to that above, except that two statements preceded the question, and the answer had to combine information from both statements.

C. The Free-Reading program was a simplified Sight-Reading program, used when the child knew all but a few of the words in the material to be read. He was asked to read a chapter or story and was interrupted only when an error occurred. The sentence in which it occurred then became the item. In Step 1 the child re-read the sentence and the tutor recorded the word(s) missed. In Step 2 she pointed to each incorrect word and asked the child to say it. She told him any word he could not say on this step, and he repeated the word. In Step 3 the student read the entire sentence and went on. Any sentences still containing errors in Step 3 were encountered again in the second run through the lesson, which would contain only the sentences with errors still outstanding.

Evaluation

A. Measures of Achievement

The most complete research report on this project is that for the 1965-66 school year. It includes results on a number of tests, and compares the following experimental treatments: 1) programmed tutoring, one 15-minute session per day; 2) programmed tutoring, two sessions per day; 3) directed tutoring, one session; 4) directed tutoring, two sessions. (Directed tutoring was a more traditional form of individual instruction; the tutors received supervision from reading specialists; Ginn and other materials were used.)

There were 43 students in each experimental group; at the end of the year their reading achievement was compared with matched controls from the same classrooms but who had received no tutoring. Although subjective evaluations of observers were quite favorable regarding all four experimental treatments, only group (2) - programmed tutoring, two sessions per day - was found to be generally superior to its controls. The results pertaining to the efficacy of this treatment are summarized in Table 1.

Table 1

GROUP MEAN SCORES FOR EXPERIMENTAL
(TWO-SESSION PROGRAMMED TUTORING) AND CONTROL GROUP

Test	Group Mean Score	
	Experimental	Control
Metropolitan Readiness (pretest)	45.4	45.5
Peabody Picture Vocabulary	58.3	58.5
Mauser Aural Sentence Comprehension	44.3	44.3
Ginn Recall	14.4	13.1*
Alphabet	26.6	24.5
Ginn Pre-primer (A)	29.9	27.3*
Ginn Primer (B)	62.6	54.2*
Stanford Reading, Total	78.2	74.2

* Significant, .01

It can be seen that the two groups were initially equal on the pretest, but that the experimental group was significantly superior on three of the seven posttests. (By contrast, the other three experimental groups were significantly superior to their control groups in only two of 21 comparisons.) The authors point out that the Ginn tests are more specifically related to the content of the tutoring than are the other measures, and that this may account for the differences having appeared on the Ginn tests. They also point out that the experimental-control difference on the Ginn tests is actually greater than the means in Table 1 suggest. This is because the Ginn tests are multiple-choice, so that a relatively large component in each mean score is attributable to guessing or chance. If this component is subtracted from both the experimental and mean control scores, the remaining figures represent the "non-guessing" component, or adjusted score. The adjusted experimental scores are 20 percent larger than the adjusted control scores (73 percent among those in the first quartile of each group).

When the Ginn subtests (vocabulary, comprehension, and word analysis) were considered separately, it was found that the superiority of the two-session group over its control group was maintained on each subtest at the .01 significance level.

Programmed and directed tutoring were also compared; that is, the 86 students receiving programmed tutoring (43 in the one-session group plus 43 in the two-session group) were compared with the 86 receiving directed tutoring. Those receiving programmed tutoring were superior on all posttests. This difference was highly significant (.01) on four tests (Ginn Recall, Alphabet, Ginn Pre-primer, Ginn Primer) and was also significant (.05) on the Stanford Reading total.

A 1966-67 evaluation further investigated the issue of, one vs. two tutoring sessions per day. Comparison was made among three groups: one session, two-sessions, and control, with approximately 130 students in each group. For each group the mean scores on the Ginn Pre-primer, Primer, and First Reader tests were combined into a single group mean, and adjustment was made for guessing. The adjusted mean of the one-session group was 46 percent higher than that of the control group; the adjusted mean of the two-session group was 51 percent higher than that of the control group.

B. Other Evaluation Indices

Project personnel have commented that tutors seem to gain personal satisfaction and increased self-confidence from the program, and "something over 20 percent of them spoke of plans to go back to school for professional training as teachers."

C. Modifications and Suggestions

Project personnel have recommended that the programs be adapted for use with the same basal reader series being used in the regular classroom instruction; they feel it is overly difficult for disadvantaged children to make simultaneous use of two different reader series. The program developers at Indiana University are currently adapting the program to other series in addition to Ginn.

Budget (1966-67)

1	Head Supervisor	Full-time
4	Field Supervisors	30 hrs/week
78	Tutors	(1/2 for 3 hrs/day; 1/2 for 5-6 hrs)
1	Secretary	Full-time
1 set/tutor	Materials	$20/set*
	Office Supplies	$500
	Travel of Field Supervisors	$2,000

* $4 to $7 per year; a set lasts 3 to 5 years. Materials costs were 1 percent or 2 percent of the personnel costs.

Quoted Sources

*Ellson, D. G., Harris, P. and Barber, L. A field test of programed and directed tutoring. Reading Research Quarterly, 1968, 3, 307-367.

Other Sources Not Quoted

Ellson, D. G. A report on programed tutoring: Pre-convention Institute VI: use of para-professionals in the teaching of reading. Bloomington, Indiana: Indiana University, April 1968.

Ellson, D. G. Report of results of tutorial project: 1965-66. Bloomington, Indiana: Indiana University, December 1966.

Ellson, D. G., Barber, L., Engle, T. L. and Kampwerth, L. Programed tutoring: a teaching aid and a research tool. Reading Research Quarterly, Fall 1965, 1,(1)(?), 77-127.

Indianapolis Public Schools. Free-reading item program. Indianapolis, Indiana, Indianapolis Public Schools, March 1968.

Indianapolis Public Schools. Report of results of tutorial reading project: 1966-67. Indianapolis, Indiana: Indianapolis Public Schools, July 1967.

Indianapolis Public Schools. Programed tutoring: an educational and social innovation. Bloomington, Indiana: Indiana University, May 1968.

Indianapolis Public Schools. Notes for proposed programed tutoring project - Indianapolis: summer 1967 through school year 1967-68. Indianapolis, Indiana: Indianapolis Public Schools, 1968(?).

Indianapolis Public Schools. Supervisor's Manual. Indianapolis, Indiana: Indianapolis Public Schools. (Undated.)

For More Information

Dr. Douglas C. Ellson
Psychology Department
Indiana University
Bloomington, Indiana

Mrs. Mary Nelson, Head Supervisor
Programed Tutorial Reading Project
Roosevelt Annex, 1644 Roosevelt Avenue
Indianapolis, Indiana 46218

* The Office of Education is collecting this material for placement in the ERIC system. Items may be obtained either in microfiche or hard copy.

UNITED STATES
GOVERNMENT PRINTING OFFICE
DIVISION OF PUBLIC DOCUMENTS
WASHINGTON, D.C. 20402

OFFICIAL BUSINESS

POSTAGE AND FEES PAID
U.S. GOVERNMENT PRINTING OFFICE

UNITED STATES DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE / OFFICE OF EDUCATION / OE–37029

☆ U. S. GOVERNMENT PRINTING OFFICE : 1969 O—344-842 (2048)